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EXAMINER	
TO, JENNIFER N	

ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/643,740	GIPP, STEPHAN KURT	
	Examiner	Art Unit	
	Jennifer N. To	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/16/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-34 are pending for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 8, 12, 14-16, 20, 24, 28, and 30-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lacks antecedent basis:

i. the resource provider – claims 1, 8, 12, 20, 24, 28;

ii. the set of nodes – claim 14;

iii. the node – claim 14.

b. The claim language in the following claims is not clearly understood:

i. as per claim 14, lines 3-4, it is not clearly understood what is meant by "a first set of one or more nodes, wherein each of the set of nodes includes, a second set of one or more CPUs" (i.e. "a first set of one or more nodes, wherein each of the set of one or more nodes includes a second set of one or more CPUs", or "each of the set of nodes includes a first set of one or more nodes, and second set of one or more CPUs").

ii. as per claim 30, lines 5-8, it is uncertain whether "one or more flavors" assigned to each resource provider is the same or different with "one or more flavors" assigned to each resource consumer.

iii. as per claim 31, line 1, it is not clearly understood what is meant by "wherein assigning includes" (i.e. which assigning step: the assigning flavors to resource provider, the assigning flavors to resource consumer, or both).

iv. as per claim 32, line 1, it is not clearly understood what is meant by "wherein assigning flavors includes" (i.e. assigning flavors to resource provider includes, or assigning flavors to resource consumer includes, or both).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-6, 8-17, 19-22, 24-30, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung et al. (hereafter Chung) (U.S. Publication No. 2008/0022286).

4. As per claim 1, Chung teaches the invention as claim including a method comprising:

creating, in a computer system, a resource consumer (paragraphs [0052], [0055], creating a thread);

assigning the resource consumer one of a set of flavors (paragraphs [0034], [0046]-[0047], [0056]);

determining whether the resource consumer is limited to receiving resources from a certain one of a set of resource providers (paragraph [0057]-[0058], determining the source of the resource allocation data to determine whether the node strength preferences have been specified via a thread attribute, the node strength preferences shown whether the thread (resource consumer) is limited to receiving resources from a certain one of a set of resource providers or not);

if the resource consumer is limited to receiving resources from the certain one of the set of resource providers, marking a field to indicate that the resource consumer is limited to receiving resources from the certain one of the set of resource providers (paragraphs [0058]-[0059], setting the node strength preferences to indicated the thread limited to receiving resources from certain one of the set of resource providers); and

allocating a resource to the resource consumer from one of the set of resource providers whose flavor matches the flavor assigned to the resource consumer (fig. 5; paragraph [0061]).

5. As per claim 3, Chung teaches that wherein the resource includes a physical memory (paragraph [0032]).

6. As per claim 4, Chung teaches that wherein the resource provider includes one or more central processing units (paragraph [0032]).

7. As per claims 5, Chung teaches that wherein the set of flavors includes application flavors, support flavors, and operating system flavors (paragraphs [0027]-[0028], [0043]).

8. As per claim 6, Chung teaches the invention as claim including a method comprising:

receiving a request for a resource from a resource consumer (fig. 5, item shown the kernel dispatch thread (resource consumer), hence Chung inherently teaches the step of receiving a request for a resource from a thread), wherein the resource consumer has a first flavor (fig. 5; paragraphs [0034], [0046]-[0047], [0056]);

determining whether the first flavor matches a second flavor of one of a set of nodes (paragraphs [0028], [0057], [0060], based on the thread attribute indicated the home node (node preference) for the thread, the kernel dispatch the thread to the appropriate home node. In order for Chung to dispatch the thread to an appropriate home node, Chung must perform the step of matching (comparing) the falvors);

if the first flavor matches the second flavor, determining whether the resource is available in the one of the set of nodes (paragraph [0060]; and

if the resource is available in the one of the set of nodes, allocating the resource to the resource consumer (paragraph [0060]).

9. As per claim 8, Chung teaches that wherein the resource provider includes a CPU (paragraph [0032]).

10. As per claim 9, Chung teaches that wherein the resource includes a physical memory (paragraph [0032]).

11. As per claim 10, Chung teaches that wherein the resource consumer is a process or a thread (fig. 2).

12. As per claim 11, Chung teaches the invention as claim including a method comprising:

requesting a resource from a set of one or more resource providers, wherein each one of the set of resource providers includes one of a set of flavors, wherein the set of flavors includes an operating system flavor, a support flavor, and an application flavor, and wherein each one of the set of resource providers is a node (abstract; paragraphs [0027]-[0028], [0032]-[0035], [0042]-[0043]); and

accepting the resource from one of the set of resource providers (fig. 5; paragraph [0040], dispatch thread to execute on the available processors, once the thread executed to perform tasks, it is accepting the resource).

13. As per claim 12, Chung teaches that wherein the resource provider includes one or more central processing units (paragraph [0032]).

14. As per claim 13, Chung teaches that that wherein the node includes one or more central processing units and physical memory (paragraph [0032]).

15. As per claim 14, Chung teaches the invention including an apparatus comprising:

a first set of one or more nodes, wherein each of the set of nodes includes, a second set of one or more central processing units (paragraphs [0028], [0032]).; and

a physical memory communicatively coupled to each CPU of the second set, wherein the physical memory includes a first flavor of the node, wherein the physical memory includes an operating system, and wherein the operating system is to allocate CPUs of the second set and the physical memory to resource consumers that have a second flavor that matches the first flavor (fig. 2, paragraphs [0039]-[0041].

16. As per claim 15, Chung teaches that the resource consumers are processes and threads (fig. 2).

17. As per claim 16, Chung teaches that wherein the first flavor is an operating system flavor, a support flavor, or a application flavor (paragraph [0043]).

18. As per claims 17, 19-22, and 24-29, they are rejected for the same reason as claims 1, 3-6, and 8-16 above.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 2, 7, 18, 23, 31, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung et al. (hereafter Chung) (U.S. Publication No. 2008/0022286).

21. As per claim 2, Chung teaches the invention substantially as claimed in claim 1 above. Chung did not specifically teach storing the filed (allocating strength preference) in memory associated with the resource consumer.

22. However, Chung disclosed that the allocation data including the allocating preference being stored in a data structure and retrieved by the application program (paragraph [0053]).

23. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have stored the allocating strength preference in data structure wherein the data structure being stored in the memory associated with the application program in order to assist the resource allocation manager to better account for the various in the resource utilization characteristics of different application program (paragraph [0016], lines 5-9).

24. As per claim 7, Chung teaches the invention substantially as claimed in claim 6 including wherein the resource consumer has a place field, wherein the place field indicates that the resource consumer can only receive resources from a certain one of the set of nodes. Chung did not specifically teach that wherein each of the set of nodes has a node identifier, and determining whether the place field of the resource consumer matches the node identifier of the one of the set of nodes.

25. However, Chung disclosed an address space that associated a set of nodes, and the resource allocation manager based on the address space and the node preference of the application/thread to determine the associated (matching) node for the thread (paragraphs [0054], [0060]).

26. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Chung teaching of utilizing an address space that associated a set of nodes is the same as the node identifier of the invention

for the purposed of identified the node, and in order for Chung to utilized the resource allocation manager to determine the node for the thread, Chung would determine whether the place field of the resource consumer (node reference of the thread) matches the node identifier (address space) of the one of the set of nodes. Thus, it would be motivated for one of an ordinary skill in the art at the time the invention was made to use Chung teaching for improving the allocation of resources in a computer system that better accounts for the variations in the resource utilization characteristics of different application programs (Chung, paragraph [0016])

27. As per claims 18, 23, they are rejected for the same reason as claims 2, and 7 above.

28. As per claim 31, Chung teaches the invention substantially as claimed in claim 30 above. Chung did not specifically teach updating a field associated with each resource consumer to indicate the flavors assigned to each resource consumer.

29. However, Chung disclosed a field (strength reference of the application/thread) associated with each resource consumer to indicate the flavors assigned to each resource consumer.

30. It would have been obvious to one of an ordinary skill in the art the time the invention was made to have update the strength reference of the application/thread in

order to keep the record of resource allocation data inconsistently maintenance. Thus, it would be motivated for one of an ordinary skill in the art at the time the invention was made to use Chung teaching for improving the allocation of resources in a computer system that better accounts for the variations in the resource utilization characteristics of different application programs (Chung, paragraph [0016]).

31. As per claims 33-34, Chung teaches the invention substantially as claimed in claim 30, 32. Chung did not specifically teach wherein selecting the flavors includes determining if the resource consumer is an operating system program/application program, if the resource consumer is an operating system program/application program, assigning the operating system flavor/application program flavor to the program.

32. However, Chung disclosed the node preferences and strength reference (flavors) of the resource consumer is assigned/designated based upon the type of the resource consumer such as operating system, applications (abstract, paragraph [0043]).

33. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that in order for Chung's system to assign/designate the flavors for the resource consumer, Chung's system must determined what type of the resource consumer first. Thus, it would be motivated for one of an ordinary skill in the art at the time the invention was made to use Chung teaching for improving the allocation of resources in a computer system that better

accounts for the variations in the resource utilization characteristics of different application programs (Chung, paragraph [0016]).

Response to Arguments

34. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form PTO 892).

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer N. To
Examiner
Art Unit 2195

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LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER